UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,313	09/23/2003	Zhiqiang Wang	200309072	9275

22879   7590   10/05/2007
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ART UNIT	PAPER NUMBER
2154	

MAIL DATE	DELIVERY MODE
10/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 July 2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-27,29 and 30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-27,29 and 30</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>30 September 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to communications filed July 20, 2007.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-5, 8-11, 13, 14, 17-24, 27, 29 and 30 are rejected under 35

U.S.C. 102(e) as being anticipated by Green (U.S. Publication No. US 2004/0213211

A1).

Regarding claims 1, 10, and 21, Green teaches as follows:

A method or a system for resolving network connectivity (a system for

determining shared broadcast domains, see, e.g., page 1, paragraph [0009], lines 1-5),

the method comprising:

Determining whether a first device (ES-1200, reference character 14 in figure 2)

is included in a portion of a network (all devices, reference character 14 in figure 2) in

which the first device can receive information directed to all devices (in a common

broadcast domain) included within the portion of the network (means for identifying

which ports or interfaces on each device are part of a common broadcast domain, see,

e.g., page 1, paragraph [0009], lines 8-13);

Obtaining a first identifier (MAC address) associated with the portion of the

network (discovery of duplicate MAC addresses on different network forwarding devices

in order to identify theses devices' adjacencies and membership in a common

broadcast domain, see, e.g., page 1, paragraph [0012], lines 1-6);

Assigning a second identifier (logical interface) to the portion of the network

unique to other portions of the network (logical interfaces are used to identify device

adjacencies and membership in the common broadcast domain, see, e.g., page 1,

paragraph [0012], lines 6-11);

Modifying the first identifier (MAC addresses) associated with the portion of the

network to include the second identifier (logical interfaces: VLAN ID or VLAN

Name)(see, page 3, MAC-to-broadcast domain table); and

Associating the modified first identifier with the first device and the portion of the

network (Marconi's ServiceOn Data NMS uses the high-level VLAN term to describe the

aggregation of individual device-specific VLANs on one or more directly connected

devices that form a single broadcast domain, see, e.g., page 3, paragraph [0037] and

figure 2).

Regarding claims 2, 11, and 22, Green teaches as follows:

Identifying a second device (ES-1000, reference character 14 in figure 2)

included in the portion of the network (means for identifying which ports or interfaces on

each device are part of a common broadcast domain, see, e.g., page 1, paragraph

[0009], lines 8-13); and

Associating the modified first identifier with the second device (Marconi's

ServiceOn Data NMS uses the high-level VLAN term to describe the aggregation of individual device-specific VLANs on one or more directly connected devices that form a single broadcast domain, see, e.g., page 3, paragraph [0037] and figure 2).

Regarding claims 3 and 23, Green teaches that presenting a first symbol (ES-1200, reference character 14 in figure 2) identifying the first device connected to a second symbol (ES-1300SX and ESR-5000, reference character 14 in figure 2) identifying the portion of the network using the modified first identifier (ES-1300SX and ESR-5000 belong to the same portion of the network because they share same VID 131, see, e.g., page 3, paragraph [0038], MAC-to-Broadcast Domain Table and figure 2).

Regarding claims 4 and 13, Green teaches that the portion of the network is a broadcast domain (see, e.g., page 3, paragraph [0035] and figure 2).

Regarding claims 5, 14, and 24, Green teaches that the portion of the network is a Virtual Local Area (high-level VLAN, see, e.g., page 3, paragraph [0036]).

Regarding claims 8 and 19, Green teaches that the first device is a port (see, e.g., Port Giga1 on ES-1200 in figure 2) included in a network switch (means for identifying which ports or interfaces on each device are part of a common broadcast domain, see, e.g., page 1, paragraph [0009], lines 8-13).

Regarding claims 9 and 20, Green teaches that the first device is coupled to other portions of the network (different broadcast domain) by a network router (devices are in different broadcast domains cannot communicate unless a router forwards frames between them, see, e.g., page 2, paragraph [0021], lines 12-25).

Regarding claim 17, Green teaches that a first table (MAC-to-Broadcast Domain Table) having an entry associating an identifier (MAC address) of the network switch with the identifier of the VLAN (see, page 3, MAC-to-Broadcast Domain Table).

Regarding claim 18, Green teaches that a second table (MAC-to-Broadcast Domain Table) having an entry associating an identifier of the network switch with the second identifier (VLAN ID or VLAN Name)(see, page 3, MAC-to-Broadcast Domain Table).

Regarding claim 27, Green teaches as follows:

A system for resolving network connectivity, the system comprising;

Means for determining a first identifier associated with a portion of a network in which a device can receive information directed to all devices included within the portion of the network (discovery of duplicate MAC addresses on different network forwarding devices in order to identify theses devices' adjacencies and membership in a common broadcast domain, see, e.g., page 1, paragraph [0012], lines 1-6);

Means for determining a second identifier associated with the portion of the network unique to other portions of the network (logical interfaces are used to identify device adjacencies and membership in the common broadcast domain, see, e.g., page 1, paragraph [0012], lines 6-11);

Means for associating the first and second identifiers with the device and the portion of the network (Marconi's ServiceOn Data NMS uses the high-level VLAN term to describe the aggregation of individual device-specific VLANs on one or more directly connected devices that form a single broadcast domain, see, e.g., page 3, paragraph

[0037] and figure 2); and

Means for associating means for modifying the first identifier associated with the

portion of the network to include the second identifier (see, page 3, MAC-to-broadcast

domain table).

Regarding claim 29, Green teaches that means for presenting an association

between the device and the portion of the network based on the first and second

identifiers (ES-1300SX and ESR-5000 belong to the same portion of the network

because they share same VID 131, see, e.g., page 3, paragraph [0038], MAC-to-

Broadcast Domain Table and figure 2).

Regarding claim 30, Green teaches that the network devices are Ethernet ATM

or multiservice IP/MPLS switches therefore having means for storing the first identifier is

inherent (see, e.g., page 1, paragraph [0002], lines 1-5).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 6, 7, 15, 16, 25 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Green (U.S. Publication No. US 2004/0213211 A1) in view of Shamir

et al. (hereinafter Shamir)(U.S. Patent No. US 6,269,076 B1).

Regarding claims 6, 7, 15, 16, 25, and 26, Green discloses all the limitations of

claims 1, 10 and 21 except for including Management Information Base configure to

store an identifier of the VLAN and using a Simple Network Management Protocol to

obtain the identifier of the VLAN from the MIB.

Shamir discloses as follows:

Network Management System utilizes the Management Information Base

maintained in the network devices (see, e.g., col. 8, lines 9-10);

The NMS obtains status about a device and configures settings and functions

within the MIBs in the managed network device via the SNMP protocol (see, e.g., col. 8,

lines 20-24); and

The MIB contains the status of all physical and logical elements including the

status of all VLANs (see, e.g., col. 8, lines 38-42).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Green to include MIB to store the identifier of the VLAN and SNMP

to obtain the identifier of the VLAN from the MIB as taught by Shamir in order to

manage efficiently the devices in a communications network in the reliable type of

database.

6.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green

(U.S. Publication No. US 2004/0213211 A1) in view of Lewis et al. (hereinafter

Lewis)(U.S. Patent No. US 6,026,442).

Regarding claim 12, Green discloses all the limitations of claim as explained

above per claim 3 except for indicating a system with a display to present the claimed

method.

Lewis discloses that a display unit (114 in figure 1) is connected to the processor

so as to display, generally in graphic form, a representation of the network including its topology and functions (see, e.g., col. 4, lines 17-20 and figure 1).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Green to include a display in a system as taught by Lewis in order to provide user friendly GUI for easier and more efficient interactions in the Network Management System.

Response to Arguments

7.   Applicant's arguments filed 7/20/2007, with respect to claims 1-27, 29 and 30, have been fully considered but they are not persuasive.

A.   Summary of Applicant's Arguments

In the remarks, the applicant argues as followings:

1) The Green publication does not disclose, among other features, the feature of modifying the first identifier associated with the portion of the network to include the second identifier. The Green publication discloses a method to determine shared broadcast domains of a network based on learned features about ports or interfaces of the devices of the network. In the Office Action, the Examiner alleges that the MAC address of a device is equivalent to the first identifier as recited. One of ordinary skill will appreciate that the MAC address is universally specific to each device, and thus would not be modified, which is contrary to the Examiner's assertion. The MAC-to- Broadcast domain table shown in paragraph [0034] illustrates that the MAC addresses are not modified. Other elements such as the Device ID, Port, VLAN ID and VLAN Name are merely read from address forwarding tables and sorted.

B.   Response to Arguments

⸳ In response to argument 1), Greed teaches as follows:

Same MAC addresses on the same set of devices identify that they are in the same broadcast domain (see, e.g., page 3, paragraph [0035]);

It is well known in the art that the MAC address can be either a universally administered address or a locally administered address (see, e.g., Wikipedia Internet dictionary definition for MAC address). Green used the locally administered MAC address to identify same broadcast domain. Therefore the MAC address (applicant's first identifier) is used to identify the broadcast domain;

Marconis' ServiceOn Data NMS uses "High-level VLAN" term to describe the aggregation of individual device-specific VLANs on one or more directly connected devices that form a single broadcast domain (see, e.g., page 3, paragraph [0036] and [0037]), wherein the individual device-specific VLANs are interpreted as the applicant's modified first identifier, which are combined identifier with MAC address (broadcasting domain is equivalent to the applicant's first identifier) and VLAN name (applicant's second identifier)(see, e.g., page 3, paragraph [0035] to [0040] and table in page 3); and

Once the table (see, e.g., page 3, MAC-to-Broadcast Domain Table) has been built and it has been discovered which MAC addresses are not learned and therefore belong to individual switches and routers, the NMS can determine which ports or interfaces are used to connect these devices to one another (see, e.g., page 3, paragraph [0038]), which resolves the same problem of applicant's resolving network

connectivity.

Therefore, the individual device-specific VLANs are obtained from the combination of the MAC address and the VLAN name (equivalent to the applicant's modifying the first identifier to include the second identifier) in order to determine network connectivity between one another network devices.

Claims are to be given their broadest reasonable interpretation during prosecution, and the scope of a claim cannot be narrowed by reading disclosed limitations into the claim. See In re Morris, 127 F.3d 1048, 1054, 44 USPQ2D 1023, 1027 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321, 13 USPQ2D 1320, 1322 (Fed. Cir. 1989); In re Prater, 415 F.2d 1393, 1404, 162 USPQ 541,550 (CCPA 1969). In addition, the law of anticipation does not require that a reference "teach" what an appellant's disclosure teaches. Assuming that reference is properly "prior art,'" it is only necessary that the claims "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or "fully met" by it. Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781,789 (Fed. Cir. 1983).

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

NATHAN FLYNN
SUPERVISORY PATENT EXAMINER

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jeong S. Park whose telephone number is 571-270-

1597. The examiner can normally be reached on Monday through Thursday 7:30 - 5:00

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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September 19, 2007